

XXXII. *Description of a new Genus of Carabideous Insects.**By* G. R. WATERHOUSE, Esq.

[Read May, 1841.]

THE insect about to be described was sent me for this purpose by A. Melly, Esq., who obtained it from the west coast of Africa, in the Gambia district. As the specimen is unique I shall not have it in my power to dissect the parts of the mouth, most of them however are tolerably well displayed.

The head is elongated, has an almost spherical neck behind, being constricted close to the eyes, which are prominent; the upper surface in front of the eyes is flat, dilated immediately in front of the eyes, so as to hide a part of the basal joint of the antennæ, which is placed in a deep socket, but is contracted again anteriorly; two grooves, each having two or three impressed points, are observable between, and slightly in front of the eyes; these two grooves, which are rather deep, converge in front, where they are joined by two slightly marked grooves which diverge anteriorly and form the posterior boundary of the clypeus, which is broadest behind, and has a distinct impressed point on each side; the anterior margin is indistinctly emarginated—in fact, nearly straight; the labrum is tolerably broad, but in antero-posterior extent it is very short; it is rather deeply emarginated in front, and the lateral projecting lobes are rounded, and each have a largish puncture. The mandibles are long, tolerably stout, and but slightly curved; they have each two, somewhat obtuse, teeth. The mentum is broader than long, and emarginated in front; the labial palpi are large; the basal joint is moderate, the second joint is longer than the first, and the terminal joint is very large and nearly in the form of an equilateral triangle. The maxillæ appear to be rather obtusely pointed, and have the usual series of spines on the inner side; the outer maxillary palpi have the basal joint long, rather slender and somewhat curved; the second is short, and the terminal joint is the same triangular form as that of the labial palpi, but not quite so large; the internal maxillary palpi (or galea) are slender, the terminal joint is somewhat curved and rather long. The antennæ are long, thick, and compressed; the basal joint is long and very stout; the second is moderate, but shorter than the other joints; the third joint is about equal in length to the first; the following joints are very nearly equal in

length, and do not sensibly diminish in width at the tip. The thorax is very nearly spherical, but rather longer than broad, its upper surface is remarkably convex, and presents a faint dorsal channel; there is also a longitudinal groove on each side marking the place where the lateral reflected margin is usually found; near this lateral line are two largish punctures. Between the chief portion of the prothorax and the abdomen is a slender cylindrical neck, or peduncle, which widely separates these parts, as in the *Scaritidæ*; this neck is in fact formed of a constricted portion of the prothorax, which meets and joins a similar produced part of the mesothorax; the prosternum is produced between the anterior pair of legs. The elytra are remarkably convex, of an ovate form, and enclose the sides of the abdomen; they are very deeply striated throughout; the striæ are distinctly punctured, and the interspaces are very convex. The scutellum is long, pointed, and very narrow. The legs are long and moderately stout; the anterior femora are very thick and much arched above; the anterior tibiæ are long and rather slender, deeply notched on the inner side, the notch situated rather below the middle, the spine in this notch is very small, the apical portion of these tibiæ is not dilated nor are there any distinct spines on this part. The anterior tarsi (the specimen being a male) are slightly dilated; the four basal joints are nearly equal in size, furnished with a series of minute bristles at the sides, and with a spongy substance beneath; the claw bearing joint is long and stout. The tarsi of the middle pair of legs are not dilated, they have the sides furnished with minute bristles, but no spongy substance beneath. The posterior tarsi as usual are longer and more slender than the others; like the tarsi of the other legs, they are equal in length to about two-thirds of that of the tibiæ to which they are joined. The whole insect is of a glossy black colour, with the exception of the seven apical joints of the antennæ, which are brown, and the palpi, which are somewhat pitchy and pale at the extremity.

Its principal characters may be thus expressed:—

Genus. DISPHERICUS.

Caput elongatum; *labrum* brevissimum, anticè emarginatum; *labium* apice subemarginatum; *palpi* articulo extimo obtriangulari; *antennæ* longæ, subcrassiores.

Thorax valdè convexus, fere globosus.

Femora antica crassiora; *tibiæ* intus emarginatæ.

Disphericus Gambianus. (Plate XII. fig. 2.)

Disph. ater, nitidus; thorace globoso, dorso canaliculato; elytris ovatis, valdè convexis, profundè striatis, striis punctatis, interstitiis convexis.

Long. corp. lin. 8, lat. 3.

Habitat in Gambia Africæ tropic. Mus. Dom. Melly.

Plate XII. fig. 2. *Disphericus Gambianus*, slightly magnified.

2 *a*, front view of the head; 2 *b*, fore leg.

This insect presents such a curious combination of characters that I find it difficult to satisfy myself as to the situation in which it should be placed among the *Carabidæ*. Mr. Melly considers it allied to *Cychnus*, in which opinion I coincide to a certain degree, but it differs from the species of that genus in several important particulars; in the first place, the anterior tibiæ are deeply notched on the inner side, and this notch is far removed from the apex of the tibiæ, the tarsi are stouter and the anterior pair are rather distinctly dilated in the male. The head and mandibles, although long, are nevertheless shorter than in *Cychnus*; the mandibles more curved, stouter, the point is more obtuse as well as the internal teeth, and the inner portion does not appear to be membranous and furnished with a series of short bristles as in the species of that genus. The labrum is short, whilst in *Cychnus* it is long, and the same difference is observable in the mentum: the palpi are shorter and the terminal joint is more truly triangular. In the form of the thorax, and in many other parts of its structure, the present insect differs much from *Cychnus*. In the form of the head it is intermediate between that genus and *Eurysoma* (or *Brachygnathus*); its antennæ more nearly resemble those of the latter genus, being stout, but are proportionately longer. In the structure of the anterior tibiæ, and in the incrassated form of the anterior femora, I find characters in which the present genus approaches very near to *Apotomus*, which has the same pedunculated thorax. On the whole I think this new genus should be placed between *Apotomus* and a group of *Carabidæ*, which may include *Tefflus*, *Pamborus*, *Eurysoma*, *Panagæus*, and some other genera, closely allied to which on the one hand is *Cychnus*, and on the other *Carabus*. These insects, with their large palpi, appear to me to be all nearly allied, though by some naturalists they are separated; I believe chiefly owing to the circumstance of the anterior tibiæ being notched internally in some and not in others. We find, however, on examination, that the difference consists

rather in the situation of the notch,* with its accompanying spine, than in its presence and absence; an examination of the anterior tibiæ of *Tefflus* and *Pamborus* will show this to be the case, inasmuch as we here find in the anterior tibiæ a structure intermediate between that observed in *Carabus* and that which is most common in the geodephagous insects. In *Carabus* the groove is longitudinal, and the spine corresponding to that, situated in the emarginated portion of the tibiæ of most other carabideous insects, is terminal, or very nearly so; in *Tefflus* and *Pamborus* the groove is oblique and the spine is removed from the apex of the tibiæ, and in *Brachygnathus* we find the notch still very low down: indeed I can scarcely perceive any difference between the structure of the anterior tibiæ in the last mentioned genus and in *Tefflus*. Now, in most classifications of the *Carabidæ*, *Tefflus* and *Pamborus* are placed near to *Carabus*, these genera being considered nearly related; but if in nearly allied genera such variations in the anterior tibiæ are formed, we cannot give that weight to the character before mentioned which we otherwise should do, and should not consider ourselves justified in removing the present new genus from among the insects with which I propose to place it on account of the notch in the anterior tibiæ being situated high up. The structure of the head and palpi I regard as of higher importance. For the present insect I propose the generic name *Disphericus*, in allusion to the almost spherical form both of the thorax and abdomen; and the specific name of *Gambianus*, to denote the part of the world in which it is found.

* I do not give these observations as new, the following lines by Latreille in the Règne Animal are to the same effect:—" Nous passerons maintenant aux carabiques dont les jambes antérieures n'ont point d'échancrure au côté interne, ou qui en offrent une, mais commençant très près de l'extrémité de ces jambes, ou ne s'avancant point sur leur face antérieure et ne formant qu'un canal oblique et linéaire."
